

chamber rod movement. Run the engine to re-establish maximum vacuum, then shut off the engine and apply the brakes with a 50-pound force on the brake pedal. Note the brake application and check for low-vacuum indicator activation.

(ii) For a combination vehicle equipped with breakaway protection and no reservoir on the towing vehicle supply line, close the supply line shut-off valve and disconnect the supply line. Apply a 50-pound force to the brake pedal on the towing vehicle and release. Trailer brakes should remain in the applied position.

(d) *Vacuum system hoses, tubes and connections.* Vacuum hoses, tubes and connections shall be in place and properly supported. Vacuum hoses shall not be collapsed, cracked or abraded.

(1) *Inspection procedure.* With the engine running, examine hoses and tubes for the conditions indicated and note broken or missing clamps.

§ 570.57 Air brake system and air-over-hydraulic brake subsystem.

The following requirements apply to vehicles with air brake and air-over-hydraulic brake systems. Trailer(s) must be coupled to a truck or truck-tractor for the purpose of this inspection, except as noted.

(a) *Air brake system integrity.* The air brake system shall demonstrate integrity by meeting the following requirements:

(1) With the vehicle in a stationary position, compressed air reserve shall be sufficient to permit one full service brake application, after the engine is stopped and with the system fully charged, without lowering reservoir pressure more than 20 percent below the initial reading.

(2) The air brake system compressor shall increase the air pressure in the reservoir(s) from the level developed after the test prescribed in § 570.57(a)(1) to the initial pressure noted before the full brake application, with the engine running at the manufacturer's maximum recommended number of revolutions per minute with the compressor governor in the cut-off position, in not more than 30 seconds for vehicles manufactured prior to March 1, 1975. For vehicles, manufactured on or after

March 1, 1975, the time allowed for air pressure buildup shall not exceed 45 seconds.

(3) The warning device (visual or audible) connected to the brake system air pressure source shall be activated when air pressure is lowered to an activating level that is not less than 50 psi. For vehicles manufactured to conform to Federal Motor Vehicle Safety Standard No. 121, the low-pressure indicator shall be activated when air pressure is lowered to an activating level that is not less than 60 psi.

(4) The governor cut-in pressure shall be not lower than 80 psi, and the cut-out pressure shall be not higher than 135 psi, unless other values are recommended by the vehicle manufacturer.

(5) Air brake pressure shall not drop more than 2 psi in 1 minute for single vehicles or more than 3 psi in 1 minute for combination vehicles, with the engine stopped and service brakes released. There may be an additional 1 psi drop per minute for each additional towed vehicle.

(6) With the reservoir(s) fully charged, air pressure shall not drop more than 3 psi in 1 minute for single vehicles or more than 4 psi in 1 minute for combination vehicles, with the engine stopped and service brakes fully applied. There may be an additional 1 psi drop per minute for each additional towed vehicle.

(7) The compressor drive belt shall not be badly worn or frayed and belt-tension shall be sufficient to prevent slippage.

Inspection procedure. With the air system charged, open the drain cocks in the service and supply reservoir on the truck or truck-tractor. Note the pressure at which the visual or audible warning device connected to the low-pressure indicator is activated. Close the drain cocks, and, with the trailer(s) uncoupled, check air pressure buildup at the manufacturer's recommended engine speed. Observe the time required to raise the air pressure from 85 to 100 psi. Continue running the engine until the governor cuts out and note the pressure. Reduce engine speed to idle, couple the trailer(s), if applicable, and make a series of brake applications. Note the pressure at which the

governor cuts in. Increased engine speed to fast idle and charge the system to its governed pressure. Stop the engine and record the pressure drop in psi per minute with brakes released and with brakes fully applied.

(b) *Air brake system hoses, tubes and connections.* Air system tubes, hoses and connections shall not be restricted, cracked or improperly supported, and the air hose shall not be abraded.

(1) *Inspection procedure.* Stop the engine and examine air hoses, tubes and connections visually for conditions specified.

(c) *Air-over-hydraulic brake subsystem integrity.* The air-over-hydraulic brake subsystem shall demonstrate integrity by meeting the following requirements:

(1) The air brake system compressor shall increase the air pressure in the reservoir(s) from the level developed after the test prescribed in §570.57(a)(1) to the initial pressure noted before the full brake application, with the engine running at the manufacturer's recommended number of revolutions per minute and the compressor governor in the cut-out position, in not more than 30 seconds for vehicles manufactured prior to March 1, 1975. For vehicles manufactured on or after March 1, 1975, the time for air pressure build up shall not exceed 45 seconds.

(2) The warning device (visual or audible) connected to the brake system air pressure source shall be activated when the air pressure is lowered to not less than 50 psi.

(3) The governor cut-in pressure shall be not lower than 80 psi, and the cut-out pressure shall not be higher than 135 psi, unless other values are recommended by the vehicle manufacturer.

(4) Air brake pressure shall not drop more than 2 psi in 1 minute for single vehicles or more than 3 psi in 1 minute for combination vehicles, with the engine stopped and service brakes released. Allow a 1-psi drop per minute for each additional towed vehicle.

(5) With the reservoir(s) fully charged, air pressure shall not drop more than 3 psi in 1 minute for single vehicles or more than 4 psi in 1 minute for combination vehicles, with the engine stopped and service brakes fully applied. Allow a 1-psi pressure drop in

1 minute for each additional towed vehicle.

(6) The compressor drive belt shall not be badly worn or frayed and belt tension shall be sufficient to prevent slippage.

Inspection procedure. With the air system charged, open the drain cocks in the service and supply reservoir on the truck or truck-tractor. Note the pressure at which the visual or audible warning device connected to the low pressure indicator is activated. Close the drain cocks and, with the trailers uncoupled, check air pressure buildup at the manufacturer's recommended engine speed. Observe the time required to raise the air pressure from 85 to 100 psi. Continue running the engine until the governor cuts out and note the pressure. Reduce engine speed to idle, couple trailers, and make a series of brake applications. Note the pressure at which the governor cuts in. Increase engine speed to fast idle and charge the system to its governed pressure. Stop the engine and record the pressure drop in psi per minute with brakes released and with brakes fully applied.

(d) *Air-over-hydraulic brake subsystem hoses, master cylinder, tubes and connections.* System tubes, hoses and connections shall not be cracked or improperly supported, the air and hydraulic hoses shall not be abraded and the master cylinder shall not show signs of leakage.

(1) *Inspection procedure.* Stop the engine and examine air and hydraulic brake hoses, brake master cylinder, tubes and connections visually for conditions specified.

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§ 570.58 Electric brake system.

(a) *Electric brake system integrity.* The average brake amperage value shall be not more than 20 percent above, and not less than 30 percent below, the brake manufacturer's maximum current rating. In progressing from zero to maximum, the ammeter indication shall show no fluctuation evidencing a short circuit or other interruption of current.